

ABSTRACT

A method and system for managing memory in a packet switching device is disclosed.

The method and system comprises managing the memory as a single FIFO when inserting
packets and managing the memory as a plurality of FIFO queues when removing packets. A
memory management scheme in accordance with the present invention takes advantage of
the nature of packet switching to give an efficient implementation of multiple independent
queues in a memory. The key observation that is made is that in a packet switch it is
expected that packets may be stored in the memory for a time no greater than the time it
takes to fill up the memory. If a packet due to extreme congestion is delayed longer than
that, then deleting that packet is an acceptable result.